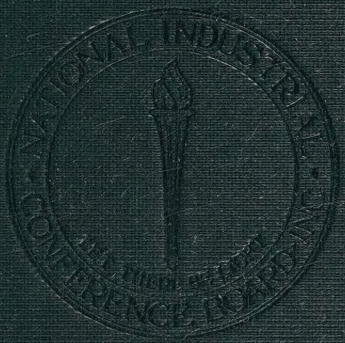
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1929

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PREFACE

PUBLIC education of the youth of the land is one of the most fundamental functions and responsibilities of society, of vital concern to all groups. It is not uncommon to hear remarks disparaging or attacking this social function, often carelessly uttered but sometimes arising out of deliberate consideration. While *specific* criticism founded on fact and experience may with propriety be made regarding one or another aspect of the public school system, care should be taken not to level *general* criticism against this fundamental social institution, unless it be based on a thorough consideration of all the facts and circumstances involved, and be offered with a constructive purpose.

At best, fair appraisal is difficult, because at all times society is so close to its contemporary educational system that critics may have their vision seriously blurred by their nearness to the picture. Too often their judgment is purely subjective and personal and based upon comparison with the "good old times" of their youth and education, ignoring the fact that their present dissatisfaction is only a repetition of similar dissatisfaction of their forebears with the educational systems of their day.

Especially in this period of rapid and unprecedented development of economic life, criticism is likely to come from those who employ young men and young women, whom they consider inadequately trained by the schools for the specific vocational tasks to which they are first assigned. In some cases such complaints are no doubt justified, but too often employers overlook in their complaints the broader objectives and functions of the educational system, as well as their own responsibility of cooperating with the schools in more adequately preparing young people for their probable vocational life, and for their future civic duties.

Recognizing that some maladjustments must necessarily exist between the prevailing school system and the rapidly

changing economic conditions under which most young people must earn their living, because of the difficulty of keeping educational methods in line with vocational needs so constantly fluctuating, and aware also of the value and necessity of sound, constructive analysis, the National Industrial Conference Board saw a need for an impartial appraisal of this situation.

At the outset, the Conference Board realized that men of industry do not have a sufficiently broad understanding of all the factors involved in the relationship of education to vocational life to qualify them alone for such a task of inquiry, and that their judgment might be influenced by their own vocational needs. Likewise, it felt that a similar observation could justifiably be made with respect to professional educators who were lacking in adequate knowledge of business life and requirements. Seeking balance of experience and viewpoint, the Conference Board therefore asked representatives of both these groups to assist it as an Advisory Committee in making a study.

The Conference Board set itself and its Advisory Committee the task of considering the general nature and extent of present maladjustment between industry and the public school system, as disclosed by the more prevalent criticisms of our public schools; of determining the major issues underlying these criticisms; and of suggesting a constructive approach toward solving the problems therein indicated, thus pointing the way to a more complete adjustment between educational and vocational interests.

The accompanying analysis portrays briefly the economic and social conditions that have most influenced our educational system and are now surrounding it, and outlines the accomplishments of the system, as well as the major criticisms which have been most forcibly leveled at it. No attempt has been made to initiate or conduct researches into public school education or to make an evaluation of any phase of it but, on the basis of such a survey, to indicate in which directions research seems most needed and may be of most value, in the interest of the individual, of industry and of society as a whole. For it is clearly recognized that, however important it may be to fit young people for their

probable vocational tasks, it is just as essential to develop within them those spiritual and moral qualities that go to make up complete individuals and useful citizens.

Obviously, no single interest in our society can be entrusted with the full responsibility of making such a broad and comprehensive survey as is needed, for each interest would naturally study the problem from its own background of training, experience and environment. The thought therefore suggests itself that all the major groups of society having a vital interest in our educational system—those concerned with problems of labor, with public health and social hygiene, as well as those engaged in teaching or in educational adminstration, or in the many branches of business—should join in this work and thereby bring to bear upon pressing educational problems the full force of their collective experience, training and judgment. The children, themselves, who are being molded by the educational system, come from all strata of society. This would be reason enough, if no other existed, for demanding wide representation in any body conducting such a work.

In view of these considerations, it is the hope of the National Industrial Conference Board that a broad and thorough survey may be undertaken jointly by public spirited men and women of the highest ability and broadest experience, selected cooperatively to represent all the spheres of interest. Such an educational survey group could well be charged with careful study of our educational problems and entrusted with the important task of definitely suggesting how best to synchronize educational methods with the ever changing needs of society.

The Conference Board was greatly aided in its work by the members of its Advisory Committee, who gave generously of their time and thought in formulating this analysis. Their active cooperation and individual contributions have been of great value. Their endorsement of this analysis, however, does not necessarily imply individual responsibility for all statements and conclusions expressed therein. The educators and industrial leaders on the committee, many of whom contributed to the work from their special knowledge and experience, were:

Howell Cheney, of Cheney Brothers, South Manchester, Conn., *Committee Chairman.*
Clifford S. Anderson, Counsel, Norton Company, Worcester, Mass.
Ernst R. Behrend, President, Hammermill Paper Company, Erie, Pa.
L. J. Belnap, President, Worthington Pump and Machinery Corporation, New York City.
Elmer E. Brown, Chancellor of New York University, New York City.
William M. Davidson, Superintendent of Schools, Pittsburgh, Pa.
Paul C. De Wolf, Vice-President, Brown and Sharpe Manufacturing Company, Providence, R. I.
Ernest C. Hartwell, Superintendent of Schools, Buffalo, N. Y.
E. M. Herr, Vice-Chairman, Westinghouse Electric & Manufacturing Company, New York City.
Harry H. Hunt, Vice-President, Stone & Webster & Blodget, Inc., Boston, Mass.
J. Taber Loree, Vice-President, Delaware and Hudson Company, Albany, N. Y.
A. B. Meredith, Commissioner, Connecticut State Board of Education, Hartford, Conn.
Arthur E. Morgan, President, Antioch College, Yellow Springs, O.
Herbert F. Perkins, President, International Harvester Company, Chicago, Ill.
Payson Smith, State Commissioner of Education, Boston, Mass.
David Snedden, Professor of Education, Teachers College, New York City.
Albert W. Whitney, General Manager, National Bureau of Casualty and Surety Underwriters, New York City.
William E. Wickenden, President, Case School of Applied Science, Cleveland, O.

In the preparation of its studies the National Industrial Conference Board avails itself of the experience and judgment of the business executives who compose its membership

and of recognized authorities in special fields, in addition to the scientific knowledge and equipment of its Research Staff. The publications of the Board thus finally represent the result of scientific investigation and broad business experience, and the conclusions expressed therein are those of the Conference Board as a body.

MAGNUS W. ALEXANDER
President

September, 1929.

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PUBLIC EDUCATION AS AFFECTING THE ADJUSTMENT OF YOUTH TO LIFE

CHAPTER I

THE DEVELOPMENT OF PUBLIC EDUCATION IN A CHANGING STATE OF SOCIETY

TO understand the development of our public school system and the inspiration that has guided it, one must look more definitely to the American people and its ideals of democracy than to the history of education or to theories of educational philosophy. While the growth of this system has undoubtedly been influenced by the various theories of education in the course of history, there is probably no other public institution in the United States that is as typically the product of the people. It is true that schools of educational thought have left their indelible impression upon it, as have also great educators, of whom Henry Barnard, Horace Mann, and Charles W. Eliot are representative. Yet even these notable examples of personal influence are significant more because of the similarity of their service as pioneers directing the public thought into new channels than as followers of established theories.

While our educational system at its secondary school and college levels in the early stages of its development followed the English idea of preparation for the professions, and later was influenced by the German idea of preparing for vocations, in the main it has recognized no precedents, especially in the rapidly growing field of secondary education. Here it is particularly *sui generis*. As long as such advanced education was considered essential only to those who were to enter the professions, American secondary education could reasonably follow the English traditions. When, however, our

democratic tendencies and the development of industry and commerce caused public education to lay aside its selective principles; when its vocational purposes were no longer limited to those of the professions or even the skilled trades, but embraced the wider commercial and general mechanical pursuits; and when, finally, as a result of the growing recognition of the independent status of women in the United States, girls were admitted to secondary and college courses, our public education threw older precedents aside and quite naturally and quickly adapted itself to its newer tasks.

Those, therefore, who still go abroad, as have many municipal and state commissions, seeking to find an explanation of the present situation or guidance for future development, usually find such missions of doubtful value, except in the highest fields of education. For a clearer understanding of the changes that have come about in our public school system we must study the growth of our own social and economic environment.

The present generation is now adapting itself to a new development of society. A century and a half ago, the beginnings of the industrial revolution laid the foundation for a type of social order which, in its main outline, was new in human annals. This new order is essentially industrial or, taken in its broader sense, economic. We are today witnessing new developments, and the future significance of this transition is still beyond the possibility of accurate appraisal. Some of the major changes wrought during this brief period of growth, however—changes that are still going on and which have affected the scope of the American educational system—can be readily enumerated.

The rapid growth in population, for example, has necessitated an unprecedented expansion of public school facilities. During the nineteenth century, the population of the world doubled, while that of continental United States increased from 38,558,371 to 75,994,575 in the 30-year period ended in 1900. In 1925, it was estimated to be 115,380,000 and at the beginning of 1929 to be 120,700,000. If, as hardly seems probable, the population of the United States should increase by the same percentage rate during the second quarter of the present century as during the first quarter, it would

amount in 1950 to approximately 170,000,000. Then, too, educational needs have been enlarged or modified by such changes as the greater urbanization of population, the tremendous increase in capital funds, the rise in standards of living, the transformation of processes of production from hand methods to machine methods, the evolution of large-scale industry and mass production, the improved organization of exchange technique and credit facilities, the breaking down of barriers of time and distance by new methods of rapid transportation and communication. All of these changes have contributed to the altering and broadening of human relationships and have correspondingly necessitated a continued readjustment of the American educational system.

Behind these economic and institutional changes, and acting as balance wheels in the mechanism of social progress, there have been certain ideals, peculiar to American civilization, which have had an important influence upon the development of public education, as well as upon the American political and social institutions. Democracy in the United States has been governed by at least four significant principles: first, the institution of private property; second, acknowledgment of the right of property in one's own labor and the potential right to direct and command it; third, the acceptance of essential moral ideals that apply to all members of society in their mutual relationship for the good of the whole, which has found its practical application in a vast amount of social legislation; and fourth, the right of all to a free education without regard to any but the most general measures of ability.

These ideals of liberty have had a determining influence upon the character of our economic and political institutions and upon the conventions and rules of our social relations. Notable changes have occurred under their influence, such as equal suffrage for women and a general loosening of the laws and customs controlling marriage and divorce. Under the ideal of universal education, the training and instruction of youth has become more and more a public, rather than a family or a privately organized function. The growth of group or collective action through labor unions, trade and manufacturers' associations, professional groups, as bankers'

associations, chambers of commerce, farmers' associations, cooperatives and similar organizations has been fostered in part by the ideal of common welfare. This has also been a motivating force in the improvement of technical processes, the application of science and more efficient economic organization, resulting in the shortening of the working day, thus affording the masses of our people an increasingly greater amount of leisure time. More and more, society has come to assume an obligation to protect and promote the welfare of its weaker members. The field of public education and the purposes to be achieved through it have been correspondingly widened and broadened.

It would be a grave mistake, however, to think that the evolution of modern society has created new and peculiar problems only in relation to public education. Many other problems of social significance have arisen at the same time. To list some of these is sufficient to emphasize their marked significance: the phenomena of recurring industrial depressions, their causes, mitigation and control; the task of adapting our credit system to present as well as to changing needs, and of protecting it from the abuses and dangers incident to speculation; the adjustment of relations between employers and employees as their working conditions have become increasingly complex and impersonal; the many problems arising out of sale or distribution of the products of an efficient productive system, which involves the balancing between consumption and production of finished goods and available human services; the problem of increasing the scale of production by developing greater purchasing power of the masses through increased wages; maintenance of the stability of the family amid powerful and economic and social forces that tend to weaken and dissipate it; preservation of respect for, and obedience to, law in a social order marked for its persistence in rapidly multiplying the number of its laws and restrictions, at the same time that it is spreading a belief in independence of action and is fostering a revolt against social restraints.

The function of education in the United States today has been broadened by reason of the fact that the state is assuming more and more responsibility for the solution of these

problems arising out of the complexity of modern social and economic relationships. The political institutions and organizations of the last century were largely influenced by the economic doctrine of "laissez faire." The solution of social and economic problems was not considered a function of government. This attitude no longer prevails. While in this country the ideal of individualism has not been abandoned, it has nevertheless been modified and, because of the expanding collective interests, it has been necessary to enforce reasonable restraints upon individual action. The complexities of modern economic, social and political life have necessitated cooperative action among individuals or groups. In a representative democracy like the United States, education has thus become increasingly important. Only through education can organized society successfully assume the vastly difficult task of balancing individualism with the new forms of cooperation and, if possible, of advancing both.

Any society bent upon the progressive improvement of its service to its members will utilize many agencies. The church, the press, the movies, organized propaganda, voluntary organizations and associations of workers, and many others, are all educational influences and must play an important part in the interest of society. All have their severe critics and their enthusiastic supporters; all have in their personnel men and women of fine spirit and great abilities. The broadening social life will undoubtedly work substantial improvement in the coordination of these agencies. We are here, however, not expected to consider or evaluate the functions of all these agencies in our advancing civilization, but are concerned only with our system of public education. It is to that system that the great majority of our people, consciously or unconsciously, look for a solution of the problems created by the changing times. Recognition of this reliance upon the school is quite apart from the question of whether it is wise or proper for our educational system to assume these increasing burdens that society seems ready to place upon it.

The increasingly significant place which a public educational system occupies or might occupy in modern society, is not peculiar to our own country. It was strikingly em-

phasized in a recent report by an advisory committee on education to the Board of Education of the English Government, from which the following quotations are taken:[1]

> "For school and industry are different facets of a single society, and the habit of mind which isolates them from each other is a habit to be overcome.
>
> "Education fails in part of its aim if it does not prepare children for a life of active labour and of social cooperation; industry fails no less if it does not use and strengthen the qualities of mind and character which have been cultivated by education.
>
> "Not the least among these ends (of education) is the forming and strengthening of character, both individual and national. It is here, especially, that a national system of education may serve to elevate a nation. Great Britain, like other countries, but perhaps more than most, is passing through an era of industrialism. Industrialism has its grave effects on national life. It demands, only too often, a narrow specialization of faculty; it produces, only too readily, a patterned uniformity of work and behavior; and it may, unless it is corrected, infect the minds of men with the genius of its own life. Education can correct industrialism by giving to the mind the breadth and fresh vitality of new interests, as it can also make industry more effective; and we believe that the teachers of our country, given their opportunity, can bring the discipline of the school to aid the influence of home in making a new generation which alike in character, in tastes and in trained skill, will justify them abundantly of all their labours."

The objectives of secondary education, set forth by the Superintendence Division of the National Education Association, are even more significant of the widening field of education, at least in the minds of those who are responsible for its direction in the United States. The commission on the reorganization of secondary education, appointed by the National Education Association, published in 1918 through the United States Bureau of Education, Department of Interior, a bulletin on "Cardinal Principles of Secondary Education." The main objectives of public education are therein stated to be: (1) Health; (2) Command of fundamental processes; (3) Worthy home membership; (4) Vocation; (5) Citizenship; (6) Worthy use of leisure; (7) Ethical character.[2]

[1] "The Education of the Adolescent," Report of the Consultative Committee to the Board of Education, London, 1926, pp. 24 and 41.

[2] U. S. Bureau of Education, Bulletin No. 35, 1918.

The committee on secondary education, in the 1928, the sixth year book of the National Education Association, Superintendence Division, restated the aims of secondary education as follows:

> "Education in a democracy, both within and without the school, should develop in each individual the knowledge, interests, ideals, habits and powers whereby he will find his place and use that place to shape both himself and society towards ever nobler ends."

The committee further defined the general objectives of all education as follows:

1. To promote the development of an understanding and an adequate evaluation of self.
2. To promote the development of an understanding and an appreciation of the world of nature.
3. To promote the development of an understanding and an appreciation of organized society.
4. To promote the development of an appreciation of the force of law and of love that is operating universally.

> "The individual self, nature, society and God—these four, and in particular the adjustments which the individual self must make—constitute the objectives of education. A full understanding of the magnitude of the task reveals the need of continuing education throughout the whole period of life. Our specific undertaking at this time is to show the part which secondary education may take in helping youth on its way from lower to higher levels of attainment."

In the words of the above report:

> "The statement of cardinal principles has had a profound effect upon the thinking, not only of secondary school teachers, but also of the public or of such sections of the public as have given attention to the problems of secondary education. The cardinal inciples have received wide acceptance in theory; only gradually modifying on the practice in the schools."

The above quotation rather accurately reflects the ideals of the National Education Association and probably reflects the general attitude of the public school teachers at large.

The Association favors education at public expense for all persons up to the age of 16 to 18 years, and the public

seems to be strongly in favor of keeping young people in the public schools just as long as possible and of encouraging them to continue through the secondary school system and even through college. To achieve this end would be a task of huge dimensions, such as has never before been undertaken by any nation. For its accomplishment we have set up the most ambitious program of free public education the world has ever known, a program that is continually expanding. Every year records an extension of the public school plant, an increase in the educational payroll and a growth of attendance figures.

Some understanding of the numerical or statistical size of the task of public education can be gained from the summary figures regarding our public elementary and secondary schools. First, there were in 1926 in round numbers 25,000,000 pupils enrolled in our public elementary and high schools, as compared with about 15,500,000 in 1900. Public school enrolment increased 59.6% between 1900 and 1926, while the total population increased during the same period 54.1%. A more significant growth is shown for the public high schools, in which enrollment increased from 519,251[1] in 1900 to 3,065,009[1] in 1926, an increase of 490.3%.

Another measure of the growth of the American public school system is afforded by the following figures for school expenditures during the period 1900 to 1926.

TOTAL EXPENDITURES FOR PUBLIC ELEMENTARY AND HIGH SCHOOLS

	1900	*1926*
Per capita of population:		
In actual dollars[2]	$2.84	$17.30
In terms of the 1913 dollar[3]	3.74	10.36
Per pupil in average attendance:		
In actual dollars[2]	20.21	102.05
In terms of the 1913 dollar[3]	26.59	61.11

It will be seen from these figures that per capita school expenditures for elementary and high schools increased, in terms of the 1913 dollar, by 177.0% from 1900 to 1926. The

[1] Excludes 7th and 8th grades in junior high schools.

[2] All data from Bulletin No. 25, 1928, U. S. Bureau of Education.

[3] Based on composite price index. See, National Industrial Conference Board, "Cost of Government in the United States, 1926–1927," p. 17.

increase during the same period of expenditures per pupil in average attendance was 129.8%.

Expenditures alone for the school year 1925–1926 for public elementary and secondary schools included the following items:

Total annual current expenses for salaries, and all other purposes	$1,615,270,416
Outlays for new buildings, sites and new equipment	411,037,774
Total expenditures	$2,026,308,190
Total payments to debt service, including payments to sinking funds	147,242,144
Grand Total	$2,173,550,334

The value of all school property in the United States "has increased from $4,252,328,900 to $4,676,603,539 from 1925 to 1926, the latter value being nearly twice as large as that for 1920."[1]

The outstanding indebtedness, including bonds and other forms of debt, against the public school system for Continental United States in 1925–1926 was $1,895,871,010. The interest paid on public school indebtedness during 1925–1926 was $71,900,858. This amount is included in the figure for total expenditures given above.

The payroll of the nation's public school system, including elementary and high schools, covers approximately one million people, including teachers, superintendents, principals, supervisors, technical experts, janitors, clerks, stenographers, elective and appointive officials. According to an estimate recently compiled, the number of employees on the public school payroll is exceeded only by that of each of four of America's leading industries: agriculture, construction, railroads, and textiles. Ranking just below public education in number of employees are such large industries as machinery manufacturing, lumber, iron and steel, automobiles and oil.[2]

On the basis of estimated value of invested capital, our public school enterprise is exceeded in size by agriculture, railroads, oil, construction, electricity, lumber, and iron and

[1] U. S. Bureau of Education, Bulletin No. 25, 1928, p. 570.

[2] Evans Clark, "Twenty Giants of American Industry," in *The New York Times*, March 25, 1926.

steel. The estimated investment in public school plants and equipment exceeds that for each of the following enterprises: manufacturing of machinery, automobiles, paper, clothing, rubber, shoes, tobacco, the telephone and telegraph, coal, publishing and meat industries and banking.

These facts evidence conclusively the faith of the American people in public education. With an annual operating and expansion budget of over two billions of dollars, with an annual debt service budget of approximately 150 millions of dollars, with one million people on their payroll, and with an investment in plant and equipment of over four and a half billions of dollars, our public schools, elementary and high schools, take rank among the upper half of the twenty largest enterprises in this country.

The American public school system is not an industry from which profits in the form of dollars are expected. Public education is a gigantic social enterprise, the profits from which are expected to accrue to society in the form of trained persons prepared to take their place in our social organization for constructive service.

Frequently, in considering the place of the public school in our social life, we are prone to forget, because of the very fact of the public's faith in the public schools, that it is the one organized institution to which we look for the training of youth not only in mental abilities but in the broader qualities of moral conduct and character. However, in making education a part of the general process of adjustment to life, we must not overlook the fact that only a part of the responsibility for educating adults as well as youth can be placed upon the schools. In appraising the results of education, we are measuring the results in terms of a composite product. A part of the skill, habits and attitudes, which have been acquired by youth at the age of twelve, fourteen, sixteen and eighteen years, has been received from the public schools, but other parts have been received from the family group, the play group, vocational experiences, religious activities, newspapers and magazines, and other elements in the social environment.

How are we to measure a composite? What do the results indicate as to the locus of responsibility? The answer must

necessarily place some portion of responsibility on the public school, which would surely not wish to be absolved from its proper share in making our educational process effective. If we may assume that our public school system is peculiarly the product of our people, their traditions and conditions, it will be of value to analyze the public's attitude towards the institution, its accomplishments and its shortcomings. These may be arrived at in part by considering the accomplishments which are claimed for the public school and the criticisms which have been most generally made of them.

CHAPTER II

CRITICISMS AND ACCOMPLISHMENTS OF PUBLIC EDUCATION

Criticisms

IT IS difficult to separate those criticisms of our public education methods that are legitimate and valuable analyses of public school shortcomings from those that are the casual and careless comments on the educational results, without regard to outside factors that may have contributed to these results.

Obviously, a child is the product not only of his years of formal education, but of his family life, his church, his playgrounds, his social activities and of the thousand and one educational forces that are brought to bear upon him by such influences as the newspapers and periodicals, the movies and theatres, numberless forms of advertising and organized propaganda. Although during eight to twelve years of his life he ordinarily spends thirty-eight weeks a year in school, in sessions of five hours a day, for five days a week, he commences this course of discipline after his character and mental outlook have perhaps already been shaped by parental and environmental influences towards certain directions. Since these outside influences multiply in their intensity as time goes on, the best that the school may be able to accomplish will be to further some of the good ones and counteract some of the bad.

When we attempt to separate that part of the result which is positively due to the public school system, from that much larger part which is due to our whole social system, we find it almost impossible to hold the school to a definite measure of responsibility. Nevertheless, it is clearly recognized that more and more of the responsibility for the training of children is being placed upon the school, and that the parents are taking an increasingly smaller part in the task. There is a strong tendency for parents to transfer to the

school those functions of physical development, character building and moral training, that even two generations ago belonged almost entirely to the home and the church.

This increasing dependency upon the public school brings upon it much criticism that was formerly leveled against the various institutions that contributed toward the training of children. Some of these shortcomings for which our prevailing social order is as much responsible as our educational system should be eliminated from this discussion.

One of the most common complaints is made by parents who find their children losing interest in school work or, at certain stages of growth, unable to make use of their school training to advance themselves in life. Too frequently, parents have a false social idea in keeping their children in school because they view continued education as a definite aid to material gain rather than to individual accomplishment and moral progress.

Employers of youthful workers, whether these be sixth grade pupils of fourteen years of age or college graduates fresh from commencement ceremonies, are often critical of the school system because of the obvious deficiencies in those seeking employment. Frequently, they complain that many of these young persons can not write legibly, figure accurately or spell correctly and especially that they lack powers of everyday thinking and common-sense application.

Social workers and others especially concerned with the advancement or regulation of public morals are disturbed because such large proportions of young persons leaving our schools after eight to twelve years in attendance appear to be careless of the law, undisciplined and deficient in the primary moral principles.

Even more frequent expression of public criticism is voiced by those who seek to find in our school system an explanation for such outstanding faults of our social order, as the fact that a relatively small percentage of the people of voting age exercise the privilege and perform the duty of using the ballot; the apparent ease with which demagogues win election to positions of legislative and administrative responsibility; the general lack of respect for law, as revealed in its open violations with impunity by both adults and youths

from all walks of life; the rather high crime rates shown by our statistics relative to those of Canada, England and Continental Europe; the instability of family life as evidenced by the increasing divorce rate in our country; the killing of so many children by automobiles and the existing spirit of recklessness which jeopardizes the safety of so many; the over-emphasis placed upon material values, manifested by the rush and urge of our people for money, by stock market excitement and by many other forms of speculation.

Since these criticisms reflect common faults, due collectively to the characteristics of our life, it is obviously absurd to regard them as helpful criticisms of our public educational system. We grant that these conditions prevail; they are the product of our social order as a whole, and those of our society that place the blame for them solely at the doors of our public schools may by their own careless attitudes in these respects have contributed to the conditions of which they complain.

Even when we confine ourselves to the direct criticisms of our public educational system, it is difficult to distinguish the local and the incidental elements from those that are general and fundamental. It must constantly be remembered that we have no national or "state" system of education in the sense that the term is used abroad. Each of the forty-eight states of the Union has its own system of education and its own distribution of powers between state and county divisions and local boards of education. It is obvious, therefore, that no criticism of our public schools will likely have a common or equal application to all states.

The attitudes of those various groups that are most interested in, and most critical of, our public schools naturally find political expression and exert an immediate influence upon the direction of public education. These strong political forces are a decided factor in the whole situation and must be reckoned with in any suggestions for improvement. They represent the interests of at least five groups—the parents, employers, taxpayers, educators, and administrators and supervisors.

The great majority of the parents of school children are aware that their children are enjoying far greater educational

privileges than were ever open to them. The general attitude toward the public school is quite favorable and parents are willing to entrust it with the responsibility for the physical, mental and even moral training of their children. Criticisms arise chiefly from those parents whose children do not fit the public school mold, or from those who are seeking to carry out particular educational ideas of their own. The failure of the school to overcome individual faults in their children, of which they are most conscious, or the desire of the parents to smooth out some of the roughnesses in the paths of their children may likewise be responsible for criticisms. On the whole, it is more typical of our American circumstances than of those in Europe, that most parents desire that their children should not follow their own trade or occupation but should advance to some higher position in life. Hence, the school is expected to give children courses in which their parents can not help them from their own background of knowledge and experience; and failure of children to keep up with these studies brings criticisms from the parents, leveled against the school and not against their children.

Employers who criticize the educational system are likely to belong either to the group of successful business men who have achieved success without an academic training, or to those who have found that the public school system does not definitely train for future manual skill or technical knowledge, nor develop the specific traits of mind and moral habits or qualities of character which they believe to be necessary in the several occupations of industry. Likewise, the school is frequently blamed for the inability of young workers to think logically, remember accurately and to use their imagination creatively.

Taxpayers very generally complain, not so much of excessive cost of public education, as of ineffective expenditures for it. They have watched the amount spent for educational purposes grow by leaps and bounds, and not unreasonably they ask whether the cost is justified by the results. They have seen this huge educational machine assuming broader and broader responsibilities and burdens and attracting larger and larger numbers into its enrolment. The machine, to many of them, seems to be consuming too much fuel in

proportion to the power produced. It seems also to them to be lacking a commanding leadership and direction and in an adequate measure of its accomplishments. It is this lack of accepted standards of measurement that has caused employers and taxpayers to question the effectiveness of the public school system that they are so generously supporting, and to challenge the value of the results obtained from it at the present time.

The most severe critics of our public educational system are the educators themselves. On the one side, they frequently complain of finding too little of professional spirit in a great portion of the teaching force, which is so largely composed of young women who look upon teaching either as a desirable means of earning a livelihood in the interim between school and matrimony or as a convenient opportunity for continuing their own educational training at the state's expense. The professional educator is distressed that so many members of the teaching staff lack the real spirit of the teacher. Too many never see beyond the "housekeeping" phases of the school; they are slaves to an established routine program which the pupil must fit. Educators are also distressed by the unassimilated mass of pupils, particularly in the secondary schools, who are kept there under compulsion of law even after they have ceased to benefit by the instruction offered. The control and direction of the organization and course of study by political and lay bodies and the influence of propaganda from many trades, commercial, social and economic interests are, moreover, a constant trial to educators.

The administrators and supervisors of the public school system are particularly critical of the inexpert and unscientific direction under which the system functions. Skilled and trained superintendents of schools are subordinated to lay boards, politically chosen, whose members serve only for short terms and usually have had but little previous knowledge or experience in the educational enterprise that they are directing. Moreover, these superintendents have to attempt to carry out their ideas through a corps of teachers who are practically guaranteed permanency of position, while their superior officers are often the subject of political attack

and may be removed at the will and whim of the board of control.

The above summary of criticisms of our public educational system includes only those general complaints and attitudes that are reflected in political influence seeking to direct and mold the development of our public education. An examination of those specific criticisms that are based upon scientific and professional surveys or justified in the opinion of professional critics has been purposely here avoided and left for later discussion.

Accomplishments

It is even more difficult to derive definite, concrete measures of the accomplishments of the public school system than of its shortcomings. To the public schools is due in large measure the credit for the reduction of illiteracy in the United States to a low point. Illiteracy between ten and fifteen years of age has been reduced from 4.1 per cent in 1910 to 2.3 per cent in 1920. Our youth emerges from the public schools with a certain skill, varying in degree, in reading, writing, spelling, oral language expression, calculation, typewriting, music, art, and so on. These accomplishments for different levels of ability can be determined within certain limits of accuracy by objective measurement tests. But the more comprehensive and intangible results of our educational system are more difficult to determine. With what thought powers do the schools equip our young people; with what higher levels of appreciation; with what attitudes towards individual living and the problems of collective life; with what habits and traits making for trustworthiness; with what desires and aspirations to achieve? These more general results of public school training do not easily lend themselves to concrete and objective measurement.

This much may be said, however, in summarizing the more obvious accomplishments of public education:

First: Illiteracy among the native born has been reduced to a negligible quantity, except among the negroes and so-called "poor whites" in certain portions of the South. This is perhaps the most striking measurable attainment.

Second: The proportion of young persons enrolled in

secondary education is larger in the United States than in any other section of the world. The number of pupils in high schools has increased from 519,251 in 1900 to 3,065,009 in 1926, then representing over 12 per cent of the total school enrolment. Despite criticism of the results of such education, the fact that this large proportion of our youth should even be "exposed" to such advanced training represents obviously an enormous advance in general opportunities for higher education and culture. The necessary organization and the means for obtaining the financial support have been developed. The opportunities thus presented have been accepted by constantly increasing numbers, and the end is not yet in sight.

Third: The methods of secondary education have in large measure been extended down into the seventh and eighth grades, which have been organized into the Junior High School. While the full results of this change can not yet be determined, it is held by many educators to be a great advance that the minds of children thirteen and fourteen years of age are brought in contact with wider fields of knowledge and culture under a greater freedom of choice and method than was possible, under the old system, even a decade ago.

Fourth: All public education has been more definitely permeated with the ideal that the objective of education is not only mental training, but also character building. It is not assumed by this statement that the moral aim is new in education. It is only alleged that the newer methods make this an aim in itself, whereas it was previously considered to be the result of mental discipline. This aim has found a constantly widening expression in the efforts to build up and strengthen moral character and provide general vocational guidance and effectiveness by giving youth a broader knowledge of the more important influences in his environment. Some critics allege, as does Mr. Abraham Flexner, that this objective has gone to the point of dangerous superficiality; that while the American people never had more respect for learning, they never had less reverence or appreciation of scholarship. If it may appear that for a time mastery over knowledge has as an aim given way to a scattering view of many things, it is nevertheless held to be a great advance that

the emphasis is laid upon the development of the ability of youth to adjust themselves to their environment, rather than upon the development of mental ability as an aim in itself.

Fifth, and as a result of the fourth accomplishment: An enormous amount of research and experiment has been undertaken in the reorganization of the curricula, particularly of secondary education, in an attempt to bring them nearer to the realities of life and the experiences of the pupils. While it must be admitted that the process is by no means completed and mistakes have been made, yet it is believed that a technique and a method have been developed which must lead to very real progress in education.

Sixth: As a consequence of the accomplishments so far enumerated, the vocational aims of public education have been rather definitely defined and advanced beyond the period of experimentation. Already, preliminary training for commercial pursuits has been put in practice on a broad scale and substantial progress has been made in setting up definite courses of training in the metal trades, the building trades, and the textile and printing industries.

Finally: In a comprehensive but general way, our system of public education may be granted to have been a potent influence in developing in our country higher standards of literary appreciation; improved tastes in music, reading, and sport; general knowledge of the laws of health and prevention of disease; improved standards of living; assimilation of the foreign born; recognition of ability; and preliminary training for the professions and for many vocations.

Just as the school can not claim credit for all that is good in our present social life, neither may it properly be held responsible for all that is undesirable. It must be recognized, however, that, without the influence of the school constantly being directed to the development of the best qualities in American youth, the present moral, civic and social conditions in this country would be less desirable than they are at present. Our schools have been more than melting pots of foreign civilization. They have definitely and powerfully contributed to the creating and building up of better types of citizens and improved attitudes toward life.

CHAPTER III

VITAL ISSUES IN PUBLIC EDUCATION

THE preceding chapters of this report have outlined the economic and social background of the American public school system and noted the major criticisms of that system as well as its accomplishments. Underlying the development of educational policies in the United States, and closely related to the criticisms of the aims and accomplishments of the public schools, are certain basic issues which require consideration at this point. The settlement or solution of these issues will have a determining effect upon the future development and character of public education in this country.

General Conditions Affecting Educational Issues

Before considering the controversial issues which in effect constitute the present educational problem, certain factors in the situation should be noted. In the first place, educational policies in the United States, to a far greater extent than in any other country, are influenced by changing public opinion. The public school is more or less under political control and it therefore tends to reflect the ideas of citizens in regard to what is best for their children. In the second place, educational aims and methods are not uniform throughout the United States. In each state the character of the educational system is influenced by various factors, including the racial distribution of population, the relative proportion of native and foreign-born residents, the number and type of religious sects, and the nature and extent of economic and industrial development. Conditions are not even uniform within individual states and, consequently, the public schools of one community may not be strictly comparable with the schools of another community in the same state.

Despite the fact that the American educational system as a whole is not only complex, but also changing and inchoate, there is a definite degree of crystallization around certain major issues which seem, for the time being at least, to express the predominating trend. The importance and immediacy of these issues may vary greatly among states and among communities. They tend to find their expression and determination as regards time and place, first, in the governmental aspects of education, second, in the professional and technical phases. The former have to do with the types of control which direct the school system and the supporting types of taxation and grants that maintain them. Under this caption would be included the boards of control which the law sets up as an instrument of its purpose. The second type of issues has to do with the materials and methods employed by the supervising organization in carrying out the objectives or aims laid upon it by existing law and public opinion, in the light of professional procedures and within the financial and legal limits imposed.

Issues Relating to Forms of Control and Support

A widely recognized issue, in which the most representative organization of educators has been interested, relates to the establishment of a Federal Department of Education with a cabinet Secretary at its head. This proposal has emphasized the intention to limit the functions of such a federal department to statistical research and general study of public educational conditions and problems, and to an extension of the means of providing for the dissemination of educational information. The opposition to this proposal is found in the traditional fear that a federal department of this importance would ultimately lead to widening the field of federal appropriations in support of projects affirmed to be of common benefit to the whole country.

The Smith-Hughes Act for the encouragement of vocational education, like the much earlier appropriations for the land grant agricultural colleges, has definitely established a precedent for the extension of federal aid for education of certain vocational types. If a similar precedent of federal

aid for education of common or general types should be established, it is feared that a federal system of supervision would be inaugurated to control the award and use of these grants. It is also feared that this system of bureauocracy would ultimately develop into a type of federal supervision of our schools which would vitiate, it is affirmed, one of the most vital principles of our constitution, that each state should regulate the intimate and immediate relations between its citizens and local governing bodies.

The discussion and development of the idea of a Federal Department of Education has been paralleled by the consideration of the desirability of controlling the labor of women and children by federal laws. Though this may seem to have been dismissed for the present by the failure to ratify the proposed Twentieth Amendment (providing that Congress shall have power concurrent with that of the several states to limit or prohibit the labor of persons under eighteen years of age), it is still in the background and undoubtedly has its influence in strengthening the opposition to the extension of federal powers over the lives of individuals, particularly of children.

Any proposal that would lead to federal grants for educational purposes also involves questions of taxation and the difficult problems arising out of the unequal distribution of taxable resources among different states or sections of the country.

Radically different systems for both the direction and support of education have grown up within the states. In the older states, the foundations were laid upon local control and support; and these have largely continued, subject to important modifications of state aid. In other states, the county is the unit for both the supervision and taxation. This creates important differences in regard to the state's powers and the county's responsibilities. In some states, the taxes are voted from year to year and are influenced by the changing ideas of the electors of each community. In others, they are determined by far less flexible provisions of the state laws or constitutions, which in some instances even fix the rates of taxation for the support of schools.

There is a similar variation of methods with respect to the

selection of school officials. In some states, the Commissioners of Education, as well as the County Superintendents of Schools, with rather limited powers, are elected. In others, they are appointed. In some instances, the Superintendents of Schools are appointed by the Mayors of cities, sometimes by the Boards of Aldermen, but usually by the School Boards. All of these methods are open to criticism. Recent events in Chicago, as well as recurrence of corruption in municipal government, have forced public attention to the necessity of stabilizing the control of our educational system and, if possible, of taking it "out of politics."

Can systems be devised which will protect the appointments and the promotions of public school teachers from the "spoils" system? Can public building projects be removed from the field of graft? Can the public schools be assured a greater degree of freedom to devote themselves unselfishly to the education of children without so many distracting influences from politicians, teachers' organizations, employers' associations, labor unions, chambers of commerce, and a host of other organized bodies, not to speak of legislators and the ever-increasing volume of legislation?

In any study of public education it is well to remember that it, like any other public business, is subject to many limitations not operative in a private business. These limitations may be indicated by pointing out some of the problems. Is it possible to provide teachers and superintendents with adequate security of tenure without hiring them for life? Is it possible to measure a teacher's efficiency and to recompense him or her in proportion thereto? Is there any way in which educational leaders deserving of public confidence can be freed from the necessity of spending such large portions of their time in battling for adequate funds with which to conduct their schools?

Other governmental issues of this nature, persistently before the public, relate to size and method of selection of school boards, to the tenure of office of teachers and to the fixing of salaries.

The most active issues concerned with the support of public schools arise in connection with the great and steadily increasing numbers of pupils enrolled, particularly in the

high schools. Indeed, more fundamentally, they grow out of the increasing acceptance by the public of the theory that all children, regardless of their mental capacities, are entitled to a continued education at the expense of the public. This theory is in effect put into practice in the laws making school attendance compulsory under specified ages.

In a few states the child-labor and school-attendance laws have forbidden the employment of children who have not completed at least eight grades of the grammar school and, in some instances, the high school, unless they are regularly in attendance at continuation schools for from four to eight hours a week. In other states employment of children under sixteen years of age, who have not completed at least the sixth grade, is forbidden.

In general, however, it may be questioned whether the desires of parents and the financial ability to support their children have not been more influential in keeping children in school than have the enactment of laws. It would appear to be true that there is a diminishing economic need for productive work by immature persons. There are, undoubtedly, cases in which circumstances require young workers to contribute to the family income. But, on the whole, society seems to have less need of the producing power of the young as the standard of living advances, and appears to be depending on the schools to occupy the children during the period of adolescence. Confusion has arisen at this point, and the need is apparent for closer coordination between the laws that fix a minimum age at which children may go to work gainfully and the minimum age at which they may leave school.

Problems arising from the lack of such coordination are serious. A boy may have completed the eighth grade and chosen to enter a vocational school rather than a high school. Later, he leaves the vocational school while still under the minimum age at which he is free from some form of school supervision. He can not be employed, yet the high school is ill-adapted to meet his needs, and his elementary school course has been legally completed. A similar situation results when a pupil who has passed the minimum age and grade requirement leaves school to go to work and then

leaves his job. In most cases, he can not enter high school, but does not want to enter a grammar school or any full-time school.

The school authorities have here a problem to solve, either through the establishment of a new type of class for full or part-time attendance, or through the introduction of greater flexibility into the existing organization. It is in this "no man's land" that the beginnings of failure to adjust pupils to life have been made.

Issues Relating to Subjects to be Taught, Methods of Teaching and Professional Supervision and Training of the Teaching Force

Because of the increasing numbers of pupils in secondary schools, it has become necessary to adapt the program of education to new conditions. Modern educational theory holds the view that the period of adolescence between 14 and 18 years of age should be devoted, in part at least, to adjusting the children to their environment, keeping in mind that this environment includes people and things as well as ideas. Inasmuch as in many instances this adjustment can not be accomplished by the older types of mental discipline, the immediate aims of education during adolescence must comprise those significant experiences—not only mental, but also manual, cultural, civic and vocational—by which any individual seeks to understand his environment. It must not entirely be forgotten that the school is an agency for the transmittal of knowledge and skill, both of which have been a part of previous human experience. Hence, we are witnessing many attempts to make our schools as much a counterpart of life's realities as can be adequately expressed in curricula. Hence, also, we have such broad generalizations as the seven aims of secondary education defined by the National Education Association, previously quoted.

These aims have now been rather widely advanced as a policy of developing secondary education. What they need is to be translated into specific terms which may be used in the development of courses of study. They have not helped

to settle such vital questions as: (1) whether vocational training of a specific type that prepares for the more common trades shall be taught in the same building and under the same organization as the cultural or academic types of training; (2) whether vocational training in public schools should seek to develop a marketable trade skill and ability, or whether it should include only those sciences and arts relating to the practice of a trade, the manual skill of which should be developed by industry itself; (3) whether there is a danger that schools may attempt to do so many things that none of them will be done well, and whether there is the same need for specialization in education as in industry; (4) whether age and normal or average good behavior entitle any pupil to some form of training at public expense irrespective of ability developed, or whether there should be some very definite measures of achievement which would entitle a pupil to continue in school after sixteen years of age; and (5) whether there should be higher schools of secondary education for morons and defectives, at least up to eighteen years of age.

As regards the more professional and technical aspects of education, it may be stated that the issues pertaining to educational methods and technique are so numerous and varied that it is difficult to classify them, and still more so to enumerate them. In general, however, they relate to the systems of pupil discipline, to the subject matter to be taught, and to teaching methods.

These issues, so far as they are vital and with the possible exception of discipline, affect the field of secondary rather than of elementary education. How far can self-government be carried in public education and what principles of moral responsibility are applicable to large school populations? Can pupils be trained to carry their school responsibilities in a way that will better prepare them for the broader duties of citizenship? Can higher measures of student responsibility and initiative be applied to mental tasks? Can pupils be trained from motives of interest to approach their tasks in a freer spirit, but with much more earnestness, and thus arrive at higher degrees of achievement? An answer to these questions has been sought in the so-called "Project Plans,"

such as the Dalton Plan; in the "Progressive Plans" which seek to build more especially upon the students' own or natural interests and aptitudes, and in the various plans which have a common basis of seeking to make the everyday and inevitable experiences of the child the way of approach to broader fields of knowledge. Those who are opposed to these more highly individualized plans of education contend that the reactions against the impersonal and mechanical features of our present social system are already tending to make young people over-individualized and non-cooperative. Many of these undertakings are a challenge to the older educational theories and to the conception of education as a purely intellectual discipline, open only to those able to achieve.

Another significant issue is that of providing adequately for the preparation and continued professional growth and stimulation of teachers. This issue is clearly recognized by the leaders in the profession, but in a lesser degree by the general public. Yet, when it is realized how comparatively few professionally prepared teachers and administrative officers there are in charge of our public schools, elementary and high, throughout the country, and what vast sums of money are invested in school buildings and equipment, it seems comparatively futile to stress matters relating to types of governmental control and to unique teaching procedures. The real business of educating children rests with the skilled teacher under the intelligent guidance of principal and superintendent. Even where there is public recognition of the necessity for a higher training of teachers, many scholars hold there is a tendency to emphasize training in the technique of teaching rather than fundamental instruction in the subject matter to be taught.

It may be said that the problem of providing an adequate number of trained workers in the field of education has three elements, viz.: finance, coordination and public understanding. The inadequate financial support of many teacher-training institutions is apparent from a study of any state report on this subject. This inadequacy results in a teaching staff below the standards of other professional schools, such as law and medicine. It would seem a part of wisdom that,

in order to conserve the public's investment in school properties and to capitalize current expense, only the best available trained people should be placed in charge of public education. A second element in the situation is found in the lack of governmental coordination in many states among the various types of institutions doing work in teacher preparation. At present, there often result an over-supply of teachers for the secondary schools and an under-supply for the elementary schools, rural and urban. Unnecessary and wasteful institutional rivalry and misdirection of energy result from lack of coordination. Unified control for the purpose of relating more closely the resources of the teacher-training institutions with the needs of the school system would result in economy and efficiency and would place teaching on a higher popular plane. This suggests a third element, namely, the need of popular understanding of teaching as a profession.

When the public comes to regard teaching and the administration of schools as a more distinguished form of public service and realizes that the state has a right to determine who shall enjoy at public expense the privilege of its higher teacher-training institutions, teaching will assume greater importance in the popular mind. The public may then rightfully demand that school experience serve as a more effective agency for the adjustment of pupils to economic, civic and social life.

The varieties and complexities found in our modern social and industrial relations, modern educators affirm, render wholly inadequate an education dealing merely with the three R's. In order to provide an education that balances the many factors of living happily and earning sufficiently, longer periods of preparation are necessary for prospective teachers. This means additional expense and will come only with a more complete recognition of the necessity and worth of the expenditure. The entire problem of teacher training for our general as well as for our special public schools needs thorough study.

Finally, in the secondary field there has long been contention between colleges and the schools. The schools challenge the right of colleges in behalf of the small proportion of

pupils who are planning to enter a college to influence largely or to dictate the work of the far greater number of pupils who can not go beyond a high school. On the other hand, the colleges, more particularly those supported by state grants, frequently affirm that the secondary schools are now insisting that the colleges accept any student who has completed a program of secondary education, regardless of its relation to higher education. There is quite evidently need for a better adjustment of the relationship between these two branches of the educational system.

Summary of Issues

In summarizing the issues of public education, it is difficult to distinguish between the essential and the more or less incidental and local. It is the aim of this study to define these issues in a way that will assist in a more effective analysis of conditions and results, and that will lead to better methods of scientific research. From this point of view, the more basic issues upon which the development of public education in a modern democracy seems to depend may tentatively be stated as follows:

I. Is it possible to define the essential aims, particularly of adolescent education, in terms that are capable of translation into attainable educational policies?

It is affirmed that the seven aims of secondary education as defined by the Superintendence Division of the National Education Association have had wide influence in extending the activities and purposes of the high school systems. Many professional educators, however, feel that those aims are too broad and vague to be effective guides for the development of educational policies. To the public at large, they may appear to be visionary ideals. Moreover, the statement of this issue raises the question whether any useful purpose is served by attempting to define in general terms the aims which are desirable in public education. This is, undoubtedly, the method of every convention of teachers and of every large gathering of educators. Opposition to defining the objectives of adolescent education rests on the belief that this can be done only slowly and imperfectly as yet, because of the difficulty of agreeing on any "standards of value."

If the desires of the public or the aims of the teachers are not a trustworthy guide for our educational system, it may well be asked, what alternative can be offered for inspiration in shaping our public educational policies? It may be unfortunate that the public neither altogether heeds the results of past scientific researches nor awaits the findings of future research studies before fastening its desires upon such a democratic institution as our public school system. However, since this must continue to be the case, the only available alternative would seem to be that of constantly testing the results of the applications of these ideals. By so doing, readjustments may be hastened, even though the initiation of misdirection may not be prevented. Progress will be particularly assured if such researches are confined to well-defined fields. Hence, while the aims of education may not be redefined in a scientific sense, except in a very general way, there may be constant striving for better methods of testing the value of the product.

II. In view of the findings recorded above, can more exact methods of measuring the accomplishments of public education be devised and can established standards of testing results be more widely used, thus progressively harmonizing advancing standards of accomplishment with the aims determined upon? Unless more scientific measures can be found and skill in their use developed, educational progress will be shifting and uncertain.

For example, is it not possible to standardize measures of accomplishment, comparing the progress of pupils of stated ages or grades under different systems, more particularly of the following groups:

1. Pupils 14 years of age of an average or normal grade of ability, who are completing the eighth grade;
2. Pupils 14 years of age who are distinctly below the normal grade of ability and who are completing the sixth grade;
3. Pupils 16 years of age who are completing the ninth grade or junior high school;
4. Pupils 18 years of age who are completing a senior high school.

Provided a sufficiently limited class or group of pupils is investigated, it seems that more exact measures of accomplishment can be devised. For instance, it would be entirely practicable to study the arithmetical achievement of pupils of less than average ability at the time they leave school. Pupils might also be tested as to their possession of particular abilities, such as legibility of handwriting, skill in typewriting, knowledge of arithmetical processes and clearness and brevity of expression. The value of carrying this type of test further may be questioned, since we have no acceptable criteria yet as to the value to the individual himself of a knowledge of history, classics, modern foreign languages, science or art.

In this connection, those who challenge the value of this type of test may possibly overlook the fact that our schools will continue to teach certain subjects that have always been considered as fundamental. However, since they are being taught, it would be well to know how effectively they are taught. In fact, it is questionable whether we can fairly attempt to establish measures of educational value in any subject, without knowing that the subject itself is effectively taught.

III. Can there be an arrangement of the curricula and methods of teaching so that the rate of individual progress may be accelerated and made more dependent upon individual ability rather than upon a standardized rate of progress of classes or grades?

Many normal schools and colleges of education are enthusiastic in their support of plans to promote progress by individualizing the work, but the more conservative systems, particularly in the East, adhere to arbitrary class or group systems of assignments and promotions.

IV. Should increased emphasis be laid upon the training of the less favored, the mentally defective or the backward children who, under the most favorable circumstances, may be severely limited in life's opportunities, or should more attention and educational resources be devoted to the bright and ambitious children upon whom our future leadership depends? Can not better progress be made, especially with normal children who have been retarded by ill health, change

of location or other unfavorable conditions in their environment?

Here, public policy halts irresolute until better means of testing proposed educational procedures and of measuring their effects are devised. For example, few would hesitate to favor very heavy expenditures on the education of backward or defective children, if they were assured that such education would prevent the probable production of criminals, or hoboes; but, unfortunately, no one can give that positive assurance, or more than a hopeful expectation of such a result.

V. Should opportunities for vocational training, both of a general and of a specialized type, be broadened and developed? What are the values in vocational education, both generally and as applied to particular subjects?

This issue opens up the question not only of the methods to be employed in communicating skill and vocational knowledge, but also of the value of much that is now used in the curriculum. This involves a consideration and study of the curriculum from the point of view of its effectiveness in aiding the life adjustments that must be made by every individual. Such a study would lead to a revaluation of the subject matter of education. This does not necessarily mean that those who emphasize the vocational point of view would value all courses by their utility, but only that they would insist that all subject matter presented should have both a cultural and a vocational value in effecting proper adjustment to life. They might also question the value of vocational education that is not accompanied by proper guidance to assist the pupils in making their individual adjustments.

Somewhat akin to the issue of the revaluation of the subject matter with a view to vocational content is the issue raised by the technical men who insist upon the retention of certain elements of specialization, such as higher mathematics, which are essential to certain groups of students.

VI. Inclusive of all issues and a subject of much discussion in the educational literature today is the broad general question of vocational guidance. This guidance involves, not only the problem of finding a suitable type of training or vocation for an individual, but also of planning a school

course so that the special aptitudes of each pupil are trained towards the life for which he is best fitted.

Vocational guidance has already gone far beyond the initial efforts to advise pupils only at the time of their graduation from the grammar schools or the high schools, as to their future vocations or occupations. It now comprises a bringing together of all those specific agencies for selection and training in industry, commerce, education and state activities, which have a bearing upon the vocations that children, either individually or in groups, will follow. The aim is to build up a cooperative use of all the information that is available for helping pupils to choose an occupation, and that will indicate what training would best prepare for such occupation.

VII. A fundamental issue is that of providing an adequate number of professional teachers and administrators to conduct the schools. This task, as has already been pointed out, requires money, co-ordination and popular understanding and appreciation of its importance.

The goals of teaching extend beyond the processes of learning. They are derived from religion and ethics, as well as from social and economic life. The underlying sciences of education, biology and psychology, individual and social, are the bases upon which are developed the arts of teaching and of administering schools. Teacher-training institutions have the task of co-ordinating science and art so that the processes of pupil adaptation may continue. How best they may accomplish this, can be determined only by comprehensive study and research. No broad study of adaptation of youth to life can neglect a critical survey of the institutions that prepare the leaders who are to direct and guide youth.

CHAPTER IV

PROPOSALS FOR RESEARCH

IT HAS been shown that the vital issues of education arise largely from the state of public opinion as to its purposes, objectives and requirements. These issues find their concrete expression, first, in the systems of political control and economic support of the public schools; second, in the systems of their administration and supervision; third, in the subject matter of the courses of study; and fourth, in measuring the results of education.

If, therefore, we are to have a valuable and comprehensive survey of public education, we must direct our studies at the *methods* of political control and support, the systems of *administration* and *supervision*, as well as to the *subject matter* taught, *the teaching technique and methods*, and measurements of the *results* obtained. Only so may we assist in building up a more sound public opinion.

It is urged that this can best be done by means of an investigation which seeks to cover broadly the whole field of public education and at the same time delimits it into its essential and several parts. The problem, therefore, is one of approaching these elements in their separate spheres of influence, but in a way that will keep constantly in mind their bearing upon the whole situation.

Research to be effective must be specific, if not concrete. Its analyses must contribute toward the proper synthesis of the whole. No research is really productive which does not correctly analyze the underlying causes of developments and does not indicate better paths of progress, as well.

Unquestionably, a huge public problem exists which immediately concerns one-fourth of the whole population, which involves the expenditure of approximately one-third of the public income from all sources, and which vitally affects the well-being and possibilities of future progress in the entire country. Whether the vital issues are as they have

been herein defined, or present themselves with different emphasis to others, the fact remains that the existence of doubt and skepticism in regard to our public educational system is seriously retarding our progress as a nation.

The problem requires an *exhaustive* and *ex-parte* examination of conditions which give rise to the vital issues described, however they may be stated. In making the specific suggestions and recommendations which follow we have carefully considered the relationship of the present developments in educational research and the agencies now devoting themselves to it. For a statement covering this material, the reader is referred to the Appendix.

Areas of Public Education Now Most Needing Research

I. *General Fields of Educational Research*

A. *Measures of Accomplishment*

The methods of measuring results may not be those hereinafter suggested, but wherever sound bases can be found for the measuring of results, they ought to be applied.

B. *The Educational Requirements of Occupational Fields*

1. A study of the essential educational requirements of the major vocations of today in terms of both their academic and technical content.
2. A study of the qualities of character and traits of personality required by the major groups of occupations.

C. *Types of Political Control and Financial Support*

What types of control can best supervise and administer our public systems of education, and how and in what measure can its financial support best be obtained and distributed?

II. *Special Fields of Educational Research*

A. *The Reappraisal of the Values and Methods and Fields for Vocational Education.*

B. *The Adjustment of Handicapped Children:* This should cover a study of the outstanding and prevalent difficulties of economic adjustment encoun-

tered by those young persons from fourteen to twenty years of age, who are of less than average ability and who at the same time are practically under the necessity of becoming in large part, if not entirely, self-supporting during these years.

C. *The Training of Teachers:* A study to determine the minimum requirements to be established for the training of teachers of various grades.

D. *Subject Matter:* What is the proper subject matter today of public education? What are those mental disciplines and studies that come most vitally within our experience and assist us in adjusting ourselves to life?

Measures of Accomplishment

There is a very definite need for a more effective prosecution of controlled research into methods of measuring and comparing relative standards of accomplishment. Much has been attempted but the results have been comparatively disappointing because of lack of agreement regarding standards of measurement of both the subject matters taught and the methods of instruction. Many investigators are also impressed with the lack of any general agreement on the part of responsible school executives as to the courses of study to be pursued by adolescent youth, and also by the consequent diversity of aims and confusion of purposes which have grown up in the system. This confusion has become even greater because, lacking accepted standards of measurement, the schools have not undertaken an adequate accounting of the great responsibilities entrusted to them. Moreover, they are so oppressed by the accumulating weight of the new burdens placed upon them that they have not definitely faced a measurement of the results of older tasks.

It is admitted that in the field of secondary education there is room for a vast difference of opinion regarding the values of certain subjects of study. For instance, we do not even know the value to different individuals of relative degrees of ability in expressing themselves correctly in written English. Neither do we know the value of a foreign language to pupils who will never have occasion to use it; nor of a

knowledge of algebra or geometry, or economics, or sociology. Nevertheless, we are faced with the universal custom and practice that certain subjects are going to be taught by general agreement to youth of certain ages. If we have no agreement as to the value of many secondary subjects, we can at least attack the universal requirements and attempt to decide how effectively they are being accomplished.

More direct progress can be made in this respect if at least a tentative agreement can be reached as to the minimum requirements considered necessary by universal consent for adolescent youth of various ages and of definitely known grades of mental ability. What are those minimum requirements which educators agree should be the attainment of children of fourteen, sixteen, or eighteen years of age and who are (a) of less than normal mental ability; (b) of normal ability; (c) of more than normal ability?

Without attempting to assign to the different ages and grades of ability the amount of attainment, it is agreed for the purpose of this report that a normal child fourteen years of age should possess the following degrees of ability in certain subjects, which can and should be measured:

(1) An ability to read understandingly, write legibly and speak correctly the English language.
(2) An ability to spell correctly the 1500 most commonly used words.
(3) An ability to perform accurately the simple operations in numbers up to and including fractions and percentages.
(4) An elementary knowledge of American history, sufficient to understand the most outstanding epochs and factors of its development.
(5) An elementary knowledge of physiology, personal hygiene and the simplest and generally accepted rules of health.
(6) An elementary knowledge of geography in its simpler political, economic and physical aspects.
(7) A very elementary knowledge of the primary laws of nature, as affecting matters only within the comprehension of every-day experience of a normal child fourteen years of age.

(8) An ability to draw figures in outline and to express some ideas of perspective and proportion as between simple objects.
(9) The development of an elementary musical sense, including the ability to read simple music and distinguish between musical tones by ear.
(10) An understanding of the fundamental responsibilities of citizenship and of life in a democratic community.

Research might determine certainly the relative degree of attainment in the above subjects which could be reasonably expected of children of the following defined levels of mental ability:

(1) Children of subnormal or less than ordinary ability who are completing the sixth grade in their fourteenth year.
(2) Children of normal or ordinary ability who are completing their eighth grade in their fourteenth year.
(3) Children of normal or ordinary ability who are completing the Junior High School or ninth grade in their sixteenth year.

In the preceding discussion no attempt has been made either to fix the relative degrees of attainment in the subjects indicated for each school grade or to define exactly the levels of mental ability which might most reasonably be tested. We have only endeavored to indicate the vital needs for the definition of such standards and levels if we are to find the way to higher standards of accomplishment in our schools.

Here is a most vital need to which too little controlled research has been devoted. Moreover, the use of accomplishment tests need not discourage, but should definitely assist in the building up of a technique for determining the "values" of particular subjects. It must be remembered, especially when we go beyond those elementary standards of accomplishment, that the "value" of a subject is not a fixed quantity, but will vary with different individuals as in their adjustments to life they are confronted with differing conditions. Hence, while we may continue in some degree to attempt to add to the sum of human knowledge by a study of the cultural value of the classics, we shall continue to arrive,

not at any one value or group of values, but at varying qualities of values.

The same is true, perhaps in a greater degree, of the attempt to measure the value of subjects by their vocational content. In the field of the acquirement of manual skill, there is a concrete vocational content measurable in wages, but the value of the mathematics and science which may underlie and reinforce such manual skill is a subject of hypothetical estimates only, and not of exact measurement, for different occupations and individuals. But what we are here proposing is that, as regards certain elementary subjects which are generally taught, it is essential that we should devise more exact measures of what children of defined levels of ability can accomplish, if the schools are to know more exactly their own progress or lack of it. This would seem the more apparent since we are not requiring maximum but minimum degrees of knowledge of specified subjects. Surely, within these elementary and essential fields, educators should be able to reach some agreement as to the minimum amount a school should accomplish with normal children at certain critical ages, at which it is most important to determine their stage of development. It is recognized that these processes of measurement involve at least three undertakings of a rather fundamental nature, all of which are attainable:

(1) An agreement as to those fundamental and elementary fields of knowledge which are most essential to adolescent youth.
(2) A determination of the minimum standards of accomplishment that are practical for at least three general classes of mental ability at certain ages.
(3) An agreement, on the basis of past research, as to the most effective methods of grading children of certain ages into at least three general levels of mental ability, not including those who are atypical and defective, with Intelligence Quotients of less than an agreed upon standard.

Educational Requirements of Occupational Fields

We have suggested that the project of more exactly measuring standards of accomplishment be set upon the basis of

the common practice and generally accepted judgment of the country as to the minimum and essential courses of study to be required of youths fourteen years of age. It is realized that this must for the present be determined without further research into the "values" of the minimum requirements, except as regards a determination of what is the general practice of the country. But, having done this, two other fields of research are vitally necessary to sounder progress in our secondary school system. The first would cover a study of the essential educational needs of the major vocations of today in terms of both their academic and technical content. The second relates to a study of the qualities of character and traits of personality required by groups of occupations.

A Study of the Educational Requirements of the Major Vocations: Industry has only very imperfectly analyzed its jobs with a view to determining the types of knowledge and their subject matter, as well as the kinds of skill and technique required. Here industry can be of the greatest assistance to education, if it will intelligently study all its processes and write such specifications of the kind of abilities required as can be interpreted by professional educators and translated into definite courses of study in mathematics, science, drawing, English and manual skill.

It is frequently predicted that the academic requirements will be found to be quite simple and elementary. For example, it may be found that the arithmetic actually used by the vast majority of workers is very limited in character. It may also be found that the use of foreign languages, history, and science is even more limited. It should, however, be borne in mind that the way to promotion to higher jobs, to leadership and to the development of powers of original creation lies through the higher types of knowledge, and that under our ideals of democracy we would not be justified in limiting each youth's outlook to the confines of his immediate job, so that a path to promotion would not reasonably be open to him.

Such studies of job specification by vocations as are here suggested should be paralleled by studies made by social workers of the requirements of community and family life. A vital need exists for an analysis of academic types of knowl-

edge required by the social and living conditions of today. Much has been attempted along these lines and is already reflected in the textbooks and outlines of courses of study which are being presented, but an authoritative weighing of this material is needed, as well as a more exact adaptation of it to rural, urban, and metropolitan conditions. We are here insisting only that a reappraisal of the subject matter of education must not be limited to vocational life, but must emphasize its social, recreational and cultural demands in different types of communities.

Having made thorough job specifications and properly classified them by groups of employments and communities, it will be possible for educators to determine, not only the specific types of knowledge required, but what different or better powers of thinking are needed in certain areas. Researches could doubtless be devised to determine how far it is practical to produce these desired powers.

The Development of Qualities of Character Required by the Major Occupations: Finally, there is a demand for research into better methods of developing those qualities of character and traits of personality that are generally more definitely expected of youth than is the mastery of knowledge of certain subjects. Critics more generally find fault with the graduates of our public schools for lack of certain qualities than because of their lack of knowledge of specific subjects. Some of the qualities so generally desired are fairly definite and objective, and others are indefinite and subjective. They might be grouped as follows:

Relatively Objective Qualities	*Relatively Subjective Qualities*
Promptness	Temperamental balance
Regularity in attendance	Cooperativeness
Cleanliness	Industry
Orderliness	Mental alertness
Accuracy	Honesty
Neatness	Reliability
Physical energy	Frankness
Quickness	Courage
	Respect for authority or obedience
	Loyalty
	Ambition

Pupils and employees can readily be tested for the objective qualities, and the tests are both positive and similar at

school and at work. The requirements may be different as to degree, but most persons can be measured by the same standards of promptness, tardiness, cleanliness, etc. Here the specifications can be written and, as a rule, are capable of being fairly well met by the schools.

As for the subjective qualities, there is room for a wide difference of opinion as to their application. In many instances educators would affirm that boys and girls exercise many of these qualities in a high degree when they fit an environment of their own creation. It would be granted that boys, for instance, quite generally display not one, but practically most of these subjective qualities in their competitive athletic sports, and that even gangsters in city districts give startling examples of team play, mental alertness, respect for the authority of the gang, honesty in the distribution of their booty, cooperativeness in the execution of their aims, as well as qualities of leadership and temperamental balance.

It becomes, therefore, a discussion of "shortages," or degrees of powers, more than of the absolute existence of these traits. It also invariably becomes a discussion as to whether the school, the family, the community, or the job is responsible for the development and expression of these traits. Such characteristics are, of course, moral qualities relating to self-interest, or relationship of one individual to another, or to a group. Is not one of the apparent approaches to their development a clearer understanding on the part of the individual of his own interests, rights, and duties to his associates? If these can be analyzed so that these relationships can be as clear to him as they are in his sports, his response will be more definite.

It is believed that industry has made a beginning towards doing this. But, can not industry carry it much further, and is it not possible to cover some of the "shortages" by bringing out the evidences of mutuality, interest, reward and responsibility more clearly than at present?

It may also be true that industry would itself benefit, as would our social units, by re-examination and analysis of the moral conventions and customs as far as they relate to the conduct of workers and members of a community life. Of

course, this is always going on, but is there not room for more specific endeavors to express these lacking factors of higher moral and spiritual interests in terms that are capable of application to specific jobs and specific school tasks? If so, the work of the educator will be assisted. The whole scheme of progressive or individualized education is a move in this distinct direction. The self-disciplining school, such as the George Junior Republic, is another type of effort. The development of more cooperative and democratic types of industry is an evidence of the same aim in work. If methods can be developed for individualizing industry also, there would be greater promise of success in nurturing the moral qualities. Here there is certainly room for more imaginative and creative experimentation, if not for research. Large groups of children in school and the principles of mass production have discouraged individuality. The problem is one of widening the opportunity of individual expression and of trying to make its relation to both school and productive work as clear as it is in play.

Types of Political Control and Financial Support

A study in this field has to be approached from two points of view. The last decade has seen an enormous amount of research, both into systems of taxation for the support of public schools, including the equalization of the burdens, and into methods of political control. These studies, however, have been either too localized or have necessarily been too much influenced by the particular purposes to which they were devoted. The traditions that have grown up in the several states, municipalities and counties are quite diverse, and it seems to one entering this field anew rather impossible to adduce any general principles either of taxation or administration. What is needed here, rather, is first to survey what has already been done and then to pick out typical administrative systems of the more representative states, the larger municipalities and the county and urban systems, and attempt to deduce from these systems some general principles. These studies should necessarily cover both the agricultural states and the industrial states in different sections of the country.

Studies of this character may have to be revised frequently so that they may exert a live influence upon the continuing development of public opinion. We have no more complex or expensive public organization than that relating to education. We should constantly seek to find and analyze those types of administration, control and support that will tend to make for a greater freedom from political influence, greater stability and support, coupled with a reasonable degree of progress. The fact that this is not a new field and that an immense amount of work has been done in it impresses us more with the necessity for some higher studies that will synthetize the results, than with the feeling that the field can now be omitted from any immediate further investigation.

These general studies would require a new analysis in typical states and communities of the supporting systems of taxation, the various bases of school grants and their ratios to population, wealth and school attendance. The economic study must also concern itself with a more careful investigation of the growth of public indebtedness, which has characterized the extension of the secondary school movement, in its relationship to a sound basis of financial support and the amortization of the debts incurred. It should also apply itself to the much vexed questions of teachers' salaries and systems of appointment and promotion which have been matters of much partisan discussion among the teachers' organizations.

The whole question of the proper basis of school support will be recognized as one that differs radically among states and some times even among communities in the same state. What we wish to ascertain is whether or not it is not possible to evolve out of this situation, under the guidance of an authoritative study, some definite principles that might influence legislative action for the better support of educational systems. It is truly a problem that deserves the attention of statesmen and economists because, as a result of the localized character of our educational control and support, it has been too much left to petty politics of the most partisan character. On the other hand, the multiplicity of material available prevents lay minds from undertaking the task.

Special Fields of Educational Research

In addition to the broad studies just suggested as regards results, qualities to be developed and methods of control, there is a constant demand for higher types of specific research into special fields. Typical of these at present are calls for research into the fields of: (1) vocational education and vocational guidance; (2) the adjustment of handicapped children; (3) teacher-training, and (4) subject matter.

Reappraisals in Vocational Education

There is a definite need for a reappraisal of the values and plans for vocational education in the light of the following questions:

What systems of control and administration are best adapted to the direction of vocational education in order that the highest degree of cooperation may be developed between the state and local communities, and between particular schools or courses and industrial organization?

To what extent should vocational education be carried on in institutions separate from those devoted to a general academic or cultural course? To what extent should the junior high school, or the tenth and eleventh grades, be devoted to courses of a definite vocational objective?

What is the legitimate place and field for the all-day trade school, the cooperative or part-time trade courses?

What is the proper function and field of the continuation school? Should the continuation school be voluntary or compulsory, and how should it differentiate in its purposes between employed and non-employed children?

What may the state legitimately do for adults of eighteen years of age or more in courses bearing either directly or indirectly upon the trades and occupations they are following?

What plan of vocational education may be best adapted to those children of less than average mental ability who are at present retained in school by compulsory attendance laws at mental tasks they are incapable of assimilating?

These and similar problems in relation to vocational education urgently require authoritative analysis and application. Almost all of them demand at the same time a far more

critical analysis and determination on the part of employers of the specific qualities and abilities required for specific occupations.

The Adjustment of Handicapped Children

Another phase of educational inquiry of very great importance at the present time, is considered peculiarly opportune for study for a variety of reasons, though it is to some extent included in the proposed study of vocational education. This particular problem can be stated as follows:

What are the outstanding and prevalent difficulties of economic adjustment encountered by those young persons from fourteen to twenty years of age who are of less than average mental ability and yet are practically under the necessity of becoming, in large part if not entirely, self-supporting during these years?

There are several reasons why this inquiry seems pertinent at the present time:

1. It is freely confessed by nearly all leading educators that school curricula for children above the first six grades tend always to be shaped to meet the needs and to fit the abilities of children and youths of at least the average of natural abilities and coming from favoring home circumstances.

2. Children and youth of superior abilities are usually promoted and graduated—from eighth grades, from junior high schools, from senior high schools—thus focusing parental and public attention on their achievements, whereas the unfavored receive little or no public attention.

3. Educators have always known by experience that children and youth differ greatly in mental powers and, therefore, in what may well be called "educabilities." But only recently has the science of psychology reached a point where it can define and predict these differences sufficiently to enable educators to consider their practical and inevitable consequences to future adaptations—economic, civic, cultural and other—and in the light of these to construct effective curricula and devise best methods for schools.

4. Young persons of less than average abilities and less than average favorable environment are usually the first to

seek self-supporting work. To a greater extent than other young persons they are forced to fit themselves into the conditions of modern mechanized production. Because of their youth, inexperience and limited environments, it is *a priori* probable that they will most keenly experience the various difficulties, hazards to person and loss of morale which work under modern industrialized conditions is often believed, but rarely known, to entail.

5. The transitions from family and school life to self-supporting work, in which family cooperations are necessarily slight for the classes here considered, involves not only what might seem to be strictly economic adjustments, such as acceptance of working hours and punctuality, submission to overhead direction, regard for tools, machines and materials, loyalty to employers' interests, etc., but also a variety of moral, health-conserving, civic, and even educational adjustments of which, so far as is known, current school education takes but little account, except in rare types of part-time or continuation schools.

6. Some data bearing upon the problem here under discussion have been assembled by city authorities charged with issuance of labor certificates. But it is not evident that any such data have yet been so interpreted as to suggest valid answers to the general query:

"In what respects does the school education of American children from twelve to sixteen years of age, of less than ordinary ability and of less than average favorable home surroundings, fairly well fit them, and in what respects fail to fit them, for the economic and other related adjustments to the conditions of modern civilization which these young people must make between ages fourteen and eighteen?"

For an excellent outline on the field of vocational guidance, readers are referred to a study put out by a group of professors at the Harvard Summer School of Education. This adequately covers the field of an outline and is suggestive of both the wide interest and the broad character of the problems involved.

Teacher Training

Teacher training is another field in which there has been

an overwhelming amount of research, so much that at first glance it would seem futile to suggest further studies. We would, however, urge that it be immediately approached from a simpler point of view and that an effort be made to determine the essentials that are necessary as a minimum for the preparation of teachers for various grades. The technique and methods of training teachers can well be continued as in the past, but almost every state and community in the country needs authoritative guidance and assistance in determining the minimum qualifications of teachers for various purposes. These, for the time being perhaps, should not be too elaborate or too extended. If we can agree upon the minimum qualifications, these would make possible an immense advance in many areas of education in emphasizing the necessity for trained teachers in all grades. Especially would this be true in primary and elementary grades where the neglect is possibly greatest.

Subject Matter

The determination of the proper subject matter to be embodied in courses of study is one that will never be permanently settled and must be constantly revised by experts. But, especially today, we seem to need more definite research to determine which mental disciplines and studies come most vitally within our experience and assist us in adjusting ourselves to life. The fundamental bases of life itself have been so vitally influenced by the development of the last decade that an attempt at an authoritative review of the present practices, as embodied in academic courses of study, is an immediate need of the first importance, and yet it is a need of such great extent and affecting so many subjects at various stages of their development, that it must be undertaken as in the past, slowly and subject by subject.

CHAPTER V

THE ORGANIZATION OF RESEARCH INTO PROBLEMS OF EDUCATIONAL ADJUSTMENT

THE primary purpose of the foregoing analysis has been to set forth the basis for a broad understanding of the important problem of the educational adjustment of youth to life; the major factors in our economic development and educational organization and methods, out of which the problem arises; and the specific aspects of the problem, which show the need and possibility of approach through broad scientific research. The economic and social conditions under which our existing educational institutions and processes developed have been briefly sketched. The generally accepted accomplishments and the more prevalent criticisms of our educational system have been indicated, without any attempt to measure the reality of these accomplishments or to evaluate the justice of these criticisms. The essential issues of educational adjustment that have grown out of the rapid development of our economic life and educational institutions have been reviewed, and issues particularly in need of scientific research have been described. It remains to suggest broadly how such research into these problems and issues may best be organized and developed so as to assure that the problems may be studied and the issues be met in the spirit of national interest that their importance requires.

From the foregoing discussion it appears that these problems and issues together constitute a great social question, the solution of which must affect our progress as a nation more than any other condition that lies within the field of social control. The American people have definitely set for themselves the ideal of a system of free public education, extending even to the college grade and offering its opportunities to all. We are freely spending huge sums for the

achievement of this ideal. In its application there is today an infinite variety and a vast amount of earnest experimentation, but there is no clear conception or common understanding as to the path along which our educational development should proceed in order that it may be brought into closer adjustment to the changing needs of our social and economic life. As regards almost every important issue in the field of educational theory and practice, uncertainty and controversy now prevail.

The impressive fact is that those who most directly deal with the product of our educational system are increasingly withdrawn from active contact with it. This is not only because education is recognized as a field in which technical and expert knowledge is necessary, but also because its conduct and the possibility of participating in its conduct are largely controlled by its administration through political agencies.

It is obvious, however, that such concerted effort in the field of comprehensive educational investigation can not properly be undertaken, or even sponsored, by a body of representatives of any single interest or by any limited group of interests in our society, for either would fail to understand all the educational issues in their many ramifications and, moreover, would not command the fullest confidence of the whole community. This would apply likewise to an organization of employers in American industry or commerce, whether it be a trade association in its narrower sense or an industrial or business organization in its broader meaning. It would be true, too, of any organization representative essentially of the employees in American industry and commerce, whether in the nature of a trade union or otherwise. Further, an industrial organization engaged in scientific research activity, such as the National Industrial Conference Board, could not properly attempt a comprehensive educational survey such as is needed, either under its own direction or with its own resources alone, for its primary interests lie in a specified field of industrial-economic research. A similar difficulty would arise in respect to sponsorship and direction of the proposed broad educational survey by any association of

teachers or educators, for they are organized primarily to represent the professional point of view and to maintain professional interests. Objection might also be made to an investigation conducted solely under the auspices of any of the various educational foundations or jointly by several of them, for these foundations are designed primarily to concern themselves with special technical questions of organization and methods, from a professional point of view, and do not broadly reflect the diverse interests concerned in the public educational problem. Within this category, also, are social service groups, associations of parents, and like bodies.

Since there is at present no well organized group that may be considered adequately representative of all the elements of social interest attached to the educational problem and competent to deal with it, it would appear advisable and necessary to establish and bring together for this purpose a commission whose membership would be selected cooperatively by organizations representative of all the major spheres of interest. The various social groups will realize the importance of such an undertaking as herein suggested. The need for the work seems to be definite and pressing, and the opportunity for an important public service ought to demand the effective cooperation of men and women of broad knowledge, experience and public spirit, when they once become convinced of the intention to approach our public educational problem from the point of view of the common interest of society as a whole.

Among the various groups concerned with educational questions there is already a clear and growing recognition of the mutuality of interest. Those in the foundations, universities and academic organizations find that those in industry and commerce, who are continuously employing and dealing with the product of our educational system, have, out of their legitimate interest and practical experience, a vital contribution to make to a broad discussion of educational problems. Again, those engaged in educational administration are constantly benefiting by the vital assistance received from those concerned in both educational and industrial research. There is clear need, also, for including

in such cooperative effort representatives of the rank and file of the teaching force in our educational institutions, those in the field of primary and secondary education, and also those whose experience has been chiefly in university education. It is equally important that the Federal Bureau of Education should be represented. Finally, those whose work is fundamentally concerned with broad social problems of labor, industry, public health and social hygiene should be included. The resulting study, while embodying the viewpoint of these varied interests, should concern itself essentially with the educational problem and should not diverge into correlative social and economic issues associated with it. The ground to be covered is so broad and the interests affected so vital that men and women of the widest possible experience, capacity and vision ought to be enlisted in the work of such a commission.

Our national traditions have firmly established the practical direction and administration of public education under local control. On the whole this is fortunate. While at times it seems to lead to confusion, duplication and multiplicity of undirected and uncoordinated experimentation, in the long run it has made for progress. There is no danger, therefore, that the appointment of a National Educational Survey Commission, such as is here suggested, can successfully attempt to impose any high degree of uniformity or central control upon our educational system, for such an attempt would be resisted on both legal and social grounds. This, however, in no way diminishes the possibility of constructive achievement, if the suggested representative commission could review the educational results of the last decade and could wisely direct public opinion along improved lines of development, to be carried out largely or altogether under local control.

The work of such a commission would necessarily proceed slowly and cautiously and would involve enlisting the assistance of all those agencies for research in the various fields which are now well organized and supported. It would thus not only tend to reinforce and supplement their work but possibly make for some desirable elimination of duplication of effort. Free from political prejudice that would attach

to the appointment of a federal governmental body, it could expand or contract its activities as its services warranted, and it could command support from non-political sources.

In this way, a constructive and promising step would be taken toward dealing in a comprehensive and public-spirited way with the increasingly important and rapidly multiplying issues and problems of American educational life; and probably in no other way can there be assurance that these serious problems will receive the kind of consideration which in the national interest they deserve.

APPENDIX

APPENDIX

AGENCIES NOW CONDUCTING EDUCATIONAL RESEARCH

EDUCATIONAL research is now being carried on by literally hundreds of agencies in the United States. Much of it is not well financed and large proportions are conducted through imperfectly organized and poorly equipped investigations. Among the agencies most active in educational research must be listed: The Federal Bureau of Education, the Federal Board for Vocational Education, the Department of Agriculture, the Department of Labor, the Department of the Interior, the Census Bureau, state departments of education, universities, teachers colleges and educational organizations, and philanthropic foundations of various kinds.

The Federal Bureau of Education not only assembles comparable statistics of state and local systems of education but in recent years has carried on various surveys and inquiries. The Federal Board for Vocational Education, though charged primarily with administrative duties, nevertheless conducts many studies of local needs for vocational education and the best conditions for its administration. At present this Board has competent special service for research into commercial education. The Department of Agriculture has done a great deal of research into matters affecting rural education. The Department of Labor, particularly through its Women's Bureau, has made many studies bearing on educational policies. The Department of the Interior has large responsibilities for Indian education; and the Census Bureau collects much significant information pertaining to education.

All of the forty-eight states have departments of education, some of which are charged with large responsibilities for research and a few of which, such as that of New York State, are given relatively ample resources for this purpose. These departments usually conduct considerable research in connection with their administrative duties. In addition to these voluntary studies, the state legislatures in some of the more progressive states often direct their respective state departments of education to undertake surveys that seem needed to guide the enactment of proposed legislation.

A number of cities now employ specialists for psychological and other forms of research. In addition, energetic school superintendents, principals and committees of teachers often undertake cooperative community studies and constructive projects of cur-

riculum reconstruction and the like. Many of the universities and teachers' colleges, of which there are several hundred in the United States, are engaged more or less extensively in educational research work, particularly in resepect to the training of teachers. Probably more than one hundred have graduate departments in which educational leaders study and conduct researches, often involving extensive investigations into the problems of the different fields of education. Not a few of these institutions now receive substantial grants from public or private sources to carry on carefully planned surveys, studies of methods of teaching and similar research. The amount and variety of this work is great, but much of it lacks able direction and there is little progressive coordination in these researches among the different institutions conducting them.

Research supported by voluntary organizations, such as the National Education Association, the National Society for the Study of Education, and numerous other national and local voluntary bodies, sometimes subsidizing specialists and often enlisting the cooperation of college teachers and administrative experts, is now abundant in quantity. Adequate coordination of effort among these agencies is probably still lacking. Many of them seem to find it difficult to procure competent technical service for research and, especially, for the discovery and formulation of problems of fundamental significance. It is well known that in recent years a number of generously endowed philanthropic foundations have been created, either to advance some special field of education or to aid in general educational advancement. Apparently, these foundations are using some of their resources to support educational research. In some cases, these agencies organize their own research projects and personnel, while in others they extend aid to promising projects submitted by teachers' colleges, voluntary organizations, or individuals.

Educational Areas Now Receiving Most Research

At successive stages in the evolution of school systems, as of all other systems, apparent needs and promising openings for scientific study change. During the nineteenth century, studies were often made in areas involving support of schools, compulsory school attendance and reorganization of college entrance requirements. The United States Bureau of Education was created in the third quarter of that century, largely to make available, first, the experience of foreign countries and, second, the experiences of the several states.

During the last quarter of the nineteenth century, widespread interest developed in American states in historical and philosophical studies of education, in methods of teaching and in child study. Although genuine scientific research work was undertaken in only a few cases, the soil was being very generally prepared for the widespread critical and scientific interests which developed so rapidly during the first quarter of the present century.

Among the areas of educational study and research that have thus far received most attention in America are the following:

1. *Foreign School Systems, History of Education, etc.* Although much effort has gone into the making of these studies, the results have been of doubtful value and needs for further research are probably not great.

2. *The Financing of Public Education.* Many studies have been directed towards the discovery of ways and means of "equalizing opportunities" within the states in which taxable wealth and children to be educated are very disproportionately distributed among the different localities. Researches in this field have now reached a highly technical development, and legislative application of well-established findings is perhaps more needed now than is further research.

There still remain, however, some very intricate problems of financing for which much research is needed in the fields of (a) methods of taxation for the support of education calculated to yield the most revenue with the least interference with tax revenues for other purposes and (b) proper distribution of public revenue towards support of different levels of public education from kindergarten to state university.

3. *The Administrative Organization of Public Education.* A great variety of problems has already received consideration in this field, such as functions of state departments, the "county unit," size and appointment of lay boards, responsibility of salaried executives, regional centralization of functions, etc. While few of the hundreds of studies thus far made have been more than partially scientific, largely because of unavailability of basic standards, criteria, or even terminologies, they have gradually affected such educational reforms as we have already achieved. These studies have resulted, for instance, in strengthening beliefs in the wisdom of "county units" for rural schools, in substitution of appointment for election of county and state superintendents, and in the prevalence of certain convictions among educational leaders as to wise policies sooner or later to be generally accepted.

4. *Teaching Personnel.* Hundreds of inquiries have been pros-

ecuted during recent years into salaries, tenures of office, pensions and other questions affecting teachers. The National Education Association and numerous state teachers' organizations, as well as state departments of education and even legislative committees, have all contributed to this work.

5. *The Normal Pupil Personnel of Schools.* Although popular interest in such questions as compulsory school attendance, "why children leave school," and the retardation problem, has somewhat abated, it is still true that in connection with continuation school administration, relationship of natural intelligence to school accomplishment, vocational education and similar problems, an extensive series of rather specialized studies has been made in very recent years. Possibly, public interest now centers mostly in problems of health, vocational guidance and mental tests of school children.

6. *Deviate School Personnel.* Many years ago much interest developed in the study of abnormal children who, because of blindness, deafness, low mentality or delinquency, could not profit through attendance at ordinary schools. Within recent years much scientific attention has been given to further studies of needs and methods for education of these extreme deviate classes, and at present public interest has been further extended to include the large numbers who are only partly abnormal—the misfits, physical, mental, or temperamental, and those for whom ordinary school procedures are but poorly adapted.

Much of the resulting research is localized and concerned with very particular problems. Many careful students believe that early study of mental, emotional and glandular abnormalities will in time give educators and physicians the means of forestalling later development of criminality and other pathological behavior.

7. *Functions of Schools.* What are the actually desirable and practicable functions of kindergartens? Of liberal colleges? Of junior high schools or junior colleges? Does American public education need to be supplemented by a series of vocational schools of secondary grade, as our collegiate system of general education was long ago supplemented by a series of professional vocational schools? Here are a variety of problems steadily claiming larger shares of the scientific attention of American educators, and to which varying solutions are being advanced. Here, too, belong certain problems of intense interest to educational philosophers concerned with the "child-centered school." How far should elementary schools seek the "all-round" development of children along paths of natural growth, as contrasted with, perhaps opposed to, the drill-like masteries of certain kinds of knowledge and skill that interested the school teachers of yesterday?

8. *Functions, Organizations, and Methods of Studies.* Hundreds of studies, some of them very costly, have in recent years been made into the aims, possible reorganization and methods of teaching Latin, mathematics, modern languages, music, industrial arts and many other traditional studies, as well as into the possibilities of teaching sex hygiene, thrift, scouting, accident prevention, social studies, commercial studies, home economics, "character formation," "occupations," and other novel lines. "Curriculum research" now claims, probably, the attention of more inquiring investigators than any other educational field except that of "mental phenomena."

9. *Psychology of Learners.* Since the discovery of useful technical methods of research into mental phenomena, as made available in America late in the nineteenth century, literally hundreds of research studies into intelligence, tests of learning, and the like, have been successfully conducted in our larger institutions. This field of research is constantly widening, and methods, including statistical treatments of results, are becoming too technical for unspecialized students to follow. To date, researches in this field have materially affected classifications and grading of learners and have moderately affected methods of teaching in some areas. It does not seem that formulations of aims have been as yet considerably affected, but there is every reason to expect ultimately much help from psychological research in determining educational aims and purposes.

10. *Surveys, Field Studies.* Among the most common of technical studies of education at the present time are regional surveys, covering a village, a city or a state, to discover and evaluate present practices in terms of agreed-upon standards.

These surveys seem especially helpful when the existing conditions of salaries of teachers, terms of schools, proportions of students in high schools, prevailing grades made by pupils in arithmetic, presence of trade schools, and the like are compared with those of other similar regions believed to be more progressive.

Documented findings of surveys are now available by scores in books, pamphlets and other publications. These are exerting considerable effects upon administrative policies, often in the region surveyed, and sometimes in other sections. They are most frequently attempted as a method of meeting criticisms of costs. It is doubtful whether they will legitimately serve even this political purpose until they are coupled with the attempt to compare costs with measurable results of education.

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